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January 22, 2002

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CLIENT NO.: 20721/04404

CLIENT NAME: Brush Wellman

NUMBER OF PAGES (including this page): 6

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Title: IMPROVED DIES FOR DIE CASTING ALUMINUM AND OTHER METALS

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Application Number	09/387,894
Filing Date	September 1, 1999
First Named Inventor	Guha et al.
Group Art Unit	1742
Examiner Name	Nicole Coy
Attorney Docket Number	20721/04404

ENCLOSURES ***(check all that apply)***

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
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  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
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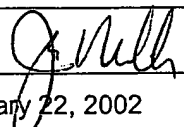
Signature	
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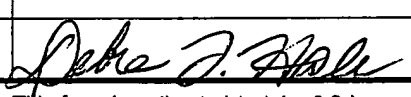
Signature		Date	January 22, 2002

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Amitava Guha and William D. Nielsen, Jr.	)	Examiner: H. Wilkins, III
Serial No.: 09/387,894	)	Art Unit: 1742
Filed: September 1, 1999	)	
For: IMPROVED DIES FOR DIE CASTING ALUMINUM AND OTHER METALS	)	Attorney Docket No.: 20721/04404

Assistant Commissioner of Patents
Washington, D.C. 20231

REQUEST FOR RECONSIDERATION

Dear Sir:

In response to the Office Action mailed October 22, 2001 Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejection of the claims for the following reasons:

The fundamental error in this rejection is that it is based on a hindsight reconstruction of the Harkness article instead of an impartial assessment of what this reference fairly suggests.

The Federal Circuit has made crystal clear that there must be some teaching, suggestion, or motivation to combine different limitations in the prior art to form a claimed combination. In re Rouffet, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998). Moreover, this is so even where the different limitations are found in the same reference. In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313 (Fed. Cir. 2000).

In this case, the Examiner has wholly failed to explain why the Harkness article would motivate one of ordinary skill in the art to make a tool from a Ni-Be alloy which is underaged.

At most, the Examiner has pointed to a particular disclosure in the Harkness article which teaches that underaged Ni-Be alloys exist. This does not explain, however, why one would purposefully choose such an alloy for making a tool, as claimed.

In this connection, the Harkness article at most suggests that the hardness, strength and electrical conductivity of age-hardenable alloys will increase in response to age hardening conditions. See pages 406 to 409 and especially in Figures 4 and 5. This does not suggest, however, that a tool intended for contact with molten metal should be made from an underaged alloy, as accomplished in accordance with the present invention.

Applicants believe conventional wisdom holds that tools should be made as hard and as strong as possible. Therefore, following the fair teachings of the Harkness article, one of ordinary skill in the art would use a peak-aged Ni-Be alloy for making tools, since such alloys are as tough and strong as possible. However, the present invention departs from this conventional wisdom in that the Ni-Be alloys chosen for making the inventive tools are underaged. Nothing in the Harkness article fairly suggests this approach.

Applicants believe the present situation is very similar to that occurring in the Kotzab case cited above. In Kotzab, a single prior art reference, the Evans patent, disclosed that (1) a single temperature sensor could be used to control a single coolant control valve and (2) multiple coolant control valves could be provided. Based on these disclosures, the Examiner and the Board concluded that it would have been obvious to control multiple control valves with a single temperature sensor. The Federal Circuit reversed on the basis that there was nothing in the Evans patent suggesting combining these different teachings together. The Court stated:

> "...a rejection cannot be predicated on the mere identification in Evans of individual components of claimed limitations. Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." 55 PQ USPQ2d at 1317.

As further stated by the Court,

> "A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. *See Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which

only the invention taught is used against its teacher." *Id.* (quoting *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

> "Most if not all inventions arise from a combination of old elements. *See In re Rouffet*, 149 F.3d 1350, 13572 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. *See id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *See id.* Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. *See In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. *See B.F. Goodrich Co. v. Aircraft Breaking Sys. Corp.*, 72 F.3d 1577, 1582, 37 USPQ2d 1314, 1318 (Fed. Cir. 1996)." 55 USPQ2d at 1316.

Here, the Examiner has wholly failed to explain why one of ordinary skill in the art would purposefully choose an underaged Ni-Be alloy for making a tool intended for contact with molten metal. Since conventional wisdom holds that such tools should be made from pre-aged alloys, it is clear that the Examiner's conclusion of obviousness here is based on a hindsight reconstruction of the Harkness article, not an impartial assessment of what this article fairly suggests.

In accordance with the present invention, Applicants have found that repeated contact of an underaged Ni-Be alloy with molten metal will actually effect a certain amount of additional age hardening of the alloy. Applicants therefore have taken advantage of this discovery in accordance with the present invention by forming tools intended for contact with molten metals from such underaged alloys. The results are tools which exhibit a substantially greater resistance to thermal cracking (and hence longer useful life) than tools made from the alloy conventionally used for this purpose, H-13 tool steel. See pages 11 and 12 of the specification.

The Harkness article wholly fails to suggest that any type of tool should be made from an underaged Ni-Be alloy. Nor does it suggest that such tools when repeatedly contacted with molten metal would exhibit remarkably superior resistance to thermal cracking than tools made with conventional alloys. Accordingly, the inventive tools, as whole, are unobvious and patentable over the prior art. In re Papesch, 315 F.2d 381, 137 USPQ 43 (CCPA 1963).

Please charge our Deposit Account No. 03-0172 for any fee that might be due.

Respectfully Submitted,

Date:_____ By:_____

John E. Miller, Reg. No. 26,206
216-622-8679